



OWNER'S OPERATING MANUAL



DR-300

Digital Light Processing™ Projector



THE WORLD'S FINEST HOME THEATER PRODUCTS™



www.htrgroup.com

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Introduction

OVERALL DESCRIPTION

Congratulations on your purchase of the DR-300 projector! The projector is a single-chip DLP™ projector with native XGA (1024 x 768) resolution. It includes a bright 135W NSH lamp as its light source, and requires very little maintenance. It is capable of displaying all currently available DTV formats (via an external DTV decoder, not included), as well as computer resolutions from VGA to UXGA.

The projector is packed full of important features that are necessities in a home theater. For example, the projector has aspect ratio control built-in, and can be configured for 4:3 or 16:9 screens, and can also be configured for use with an anamorphic lens. Also, it can sense whether a high-resolution input signal is RGB or component and adjust itself automatically, making this projector very user-friendly.

This manual will guide you through the operation of your DR-300 projector. Please read through it before operating your projector, and keep it as a reference for the future.

FEATURES AND BENEFITS

The DR-300 projector has many unique and important features. They include:

- Built-in aspect ratio control for 16:9 or 4:3 screens
- Projector can be configured for use with an anamorphic lens
- Native 1024 x 768, Widescreen 1024 x 576
- 135W NSH lamp
- 1000 ANSI lumens light output
- Electronic keystone correction
- Manual Zoom and Focus
- DTV capable (via outboard DTV decoder); 480p, 540p, 720p and 1080i formats
- NTSC/PAL/SECAM compatible
- Capable of displaying computer resolutions from VGA to UXGA
- Ceiling or floor, front or rear projection
- Expanded color balance controls
- Auto-switching between RGB and component
- Optimized for use with progressive DVD players

SAFETY PRECAUTIONS

Please read and observe the following safety precautions when operating your DR-300 projector.

- **NEVER UNPLUG THE PROJECTOR WHILE IT IS STILL RUNNING!**
The lamp **MUST** have time to cool- always place the unit in **STANDBY** and let the fans cool the bulb before unplugging the unit. Failing to let the lamp cool properly can result in lamp failure and possible implosion.
- Do not insert any object, especially metal or liquids, into the projector
- Do not place any objects containing water or any other liquid on top of the projector
- Do not place the projector in direct sunlight, near heaters or in extremely dusty or humid locations
- Do not install the projector outdoors or otherwise exposed to the elements
- Do not place heavy objects on top of the projector
- If a power cord is damaged or frayed in any way, electrical shock and/or fire may result. Please do not place objects on the power cord, and keep the cord away from heat-emitting devices. Should a power cord become damaged in any way, please contact your Runco dealer for a replacement cord.
- Do not remove the cover of the projector for any reason. If any problems arise, please contact a Runco Dealer or Runco International for service. Removing the cover will void the warranty.

LIMITED WARRANTY

Congratulations on your purchase of a Runco video product and welcome to the Runco family! We believe Runco produces "The World's Finest Home Theater Products". With proper installation, setup and care, you should enjoy many years of unparalleled video performance. Please read this consumer protection plan carefully and retain it with your other important documents.

This is a LIMITED WARRANTY as defined by the U.S. Consumer Product Warranty and Federal Trade Commission Improvement Act.

WHAT IS COVERED UNDER THE TERMS OF THIS WARRANTY:

SERVICE LABOR: Runco will pay for service labor by an approved Runco service center when needed as a result of manufacturing for a period of two (2) years from the effective date of delivery to the end user.

PARTS (Not including projector lamp): Runco will provide new or rebuilt replacement parts for the parts that fail due to defects in materials or workmanship for a period of two (2) years from the effective date of the warranty. Such replacement parts are then subsequently warranted for the remaining portion (if any) of the original warranty period.

LAMP: Six months or 1000 hours (which ever comes first).

WHAT IS NOT COVERED UNDER THE TERMS OF THIS WARRANTY:

This warranty only covers failure due to defects in materials and workmanship that occur during normal use and does not cover normal maintenance. This warranty does not cover cabinets or any appearance item; any damage to laser discs; failure resulting from accident, misuse, abuse, neglect, mishandling, misapplication, faulty or improper installation or setup adjustments; improper maintenance, alteration, improper use of any input signal; damage due to lightning or power line surges, spikes and brownouts; damage that occurs during shipping or transit; or damage that is attributed to acts of God. In the case of remote control units, damage resulting from leaking, old, damaged or improper batteries is also excluded from coverage under this warranty.

CAUTION: DAMAGE RESULTING DIRECTLY OR INDIRECTLY FROM IMPROPER INSTALLATION OR SETUP IS SPECIFICALLY EXCLUDED FROM COVERAGE UNDER THIS WARRANTY. IT IS IMPERATIVE THAT INSTALLATION AND SETUP WORK BE PERFORMED ONLY BY AN AUTHORIZED RUNCO DEALER TO PROTECT YOUR RIGHTS UNDER THIS WARRANTY. THIS WILL ALSO ENSURE THAT YOU ENJOY THE FINE PERFORMANCE YOUR RUNCO PRODUCT IS CAPABLE OF PROVIDING WHEN INSTALLED AND CALIBRATED BY RUNCO AUTHORIZED PERSONNEL.

RIGHTS, LIMITS AND EXCLUSIONS:

Runco limits its obligations under any implied warranties under state laws to a period not to exceed the warranty period. There are no express warranties. Runco also excludes any obligation on its part for incidental or consequential damages related to the failure of this product to function properly. Some states do not allow limitations on how long an implied warranty lasts, and some states do not allow the exclusion or limitation of incidental or consequential damages. So the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

EFFECTIVE WARRANTY DATE:

This warranty begins on the effective date of delivery to the end user. For your convenience, keep the original bill of sale as evidence of the purchase date.

IMPORTANT: WARRANTY REGISTRATION:

Please fill out and mail your warranty registration card. It is imperative that Runco knows how to reach you promptly if we should discover a safety problem or product update for which you must be notified.

TO OBTAIN SERVICE, CONTACT YOUR RUNCO DEALER:

Repairs made under the terms of the Limited Warranty covering your Runco International video product will be performed at the location of the product, during usual working hours, providing location of product is within normal operating distance from a Runco Authorized Service Center. If, solely in Runco's judgement, location of product to be repaired is beyond normal operating distance of the closest Runco Authorized Service Center, it is the owner's responsibility to arrange for shipment of the product for repair. These arrangements must be made through the selling Runco dealer. If this is not possible, contact Runco directly for a return authorization number and shipping instructions. Runco will return product transportation prepaid in the United States, unless no product defect is discovered. In that instance, shipping costs will be the responsibility of the owner.

ADDITIONAL INFORMATION:

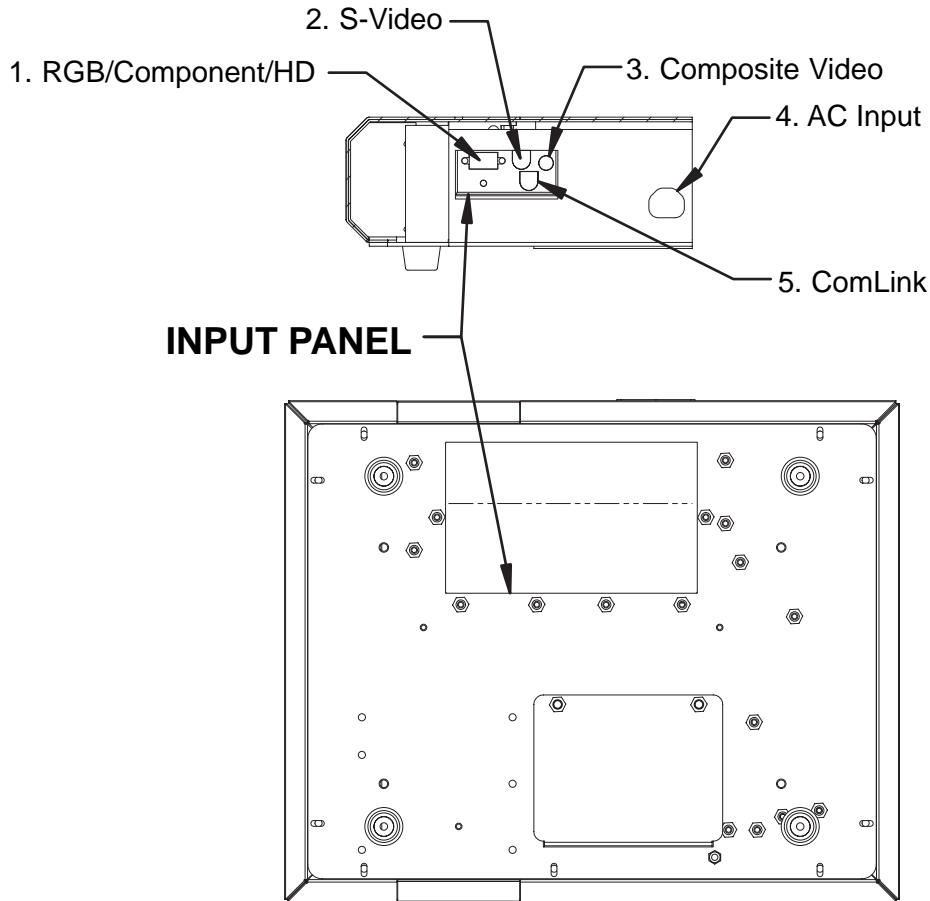
To locate the name and address of the nearest Runco authorized service location, or for additional information about this warranty, please call, write or visit our website:

CUSTOMER SERVICE DEPARTMENT
RUNCO INTERNATIONAL
2463 Tripaldi Way
Hayward, CA 94545
Ph: (510) 293-9154 / Fax: (510) 293-0201
www.runco.com

Getting Started: DR-300 Projector

INPUT PANEL DESCRIPTION

All connections are located on the underside of the unit. Please refer to the following drawing:



1. RGB/Component/HD Input

Connect RGB or component output from a high resolution source (computer, DTV decoder, progressive DVD player, etc.) here.

2. S-Video Input

Connect an S-video signal here.

3. Composite Video Input

Connect a Composite video signal here.

4. AC Input

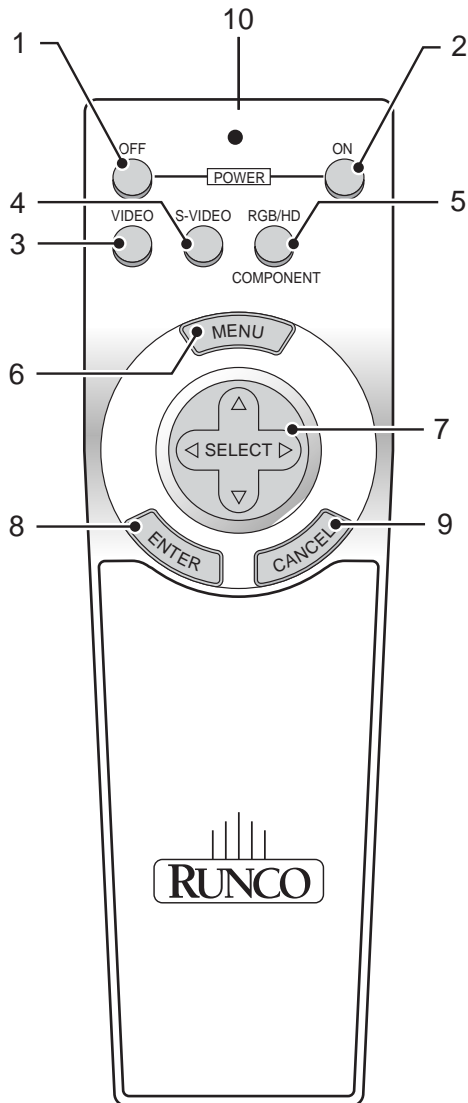
Connect AC power here.

5. ComLink (RS-232 Control)

Connect the RS-232 output of a control system here (AMX, Crestron, etc.) see page 23.

REMOTE CONTROL

The remote control controls all operations of the DR-300. It uses discreet On/Off commands, discrete source selection commands and other simple controls.



1. OFF: Turns the projector off.

2. ON: Turns the projector on.

3. VIDEO: Selects Composite Video as the source.

4. S-Video: Selects S-video as the source.

5. RGB/HD/Component: Selects RGB/Component (DB15 input) as the source.

6. Menu Button: Displays the On-screen menu for making adjustments or changing settings.

7. Select (arrow buttons): When the menu is displayed, the arrow buttons allow you to select the menu item you wish to adjust; when in an adjustment mode, the arrow buttons will allow you to adjust the level of the selected item.

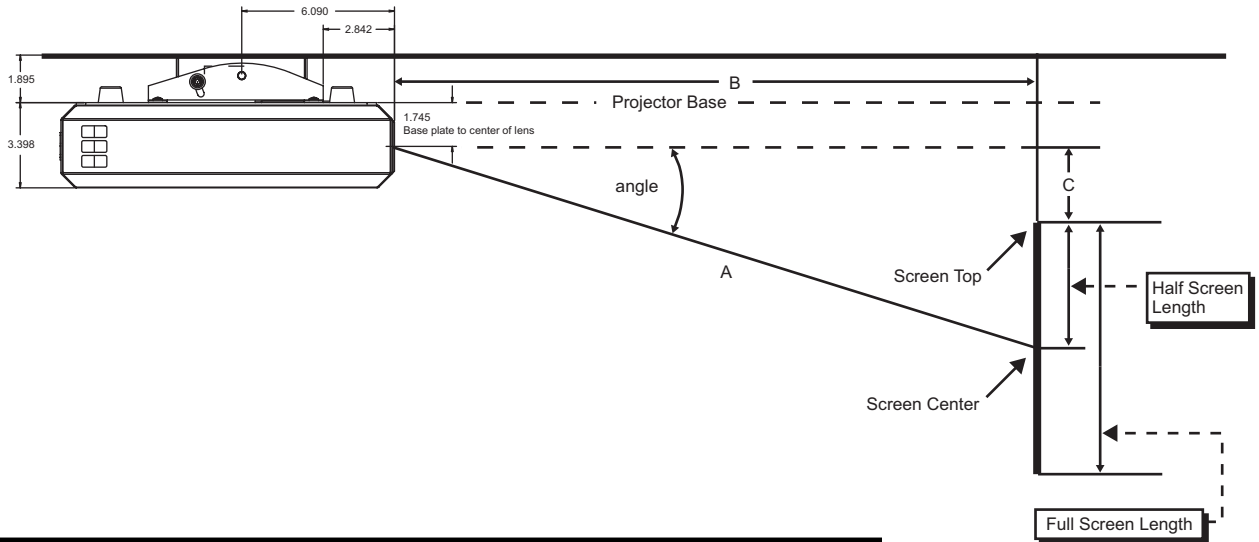
8. Enter Button: Selects the highlighted menu item.

9. Cancel Button: Exits the menu(s), or cancels an adjustment (returns it to its previous value).

10. IR Output LED: Blinks when an infrared signal is being transmitted.

PROJECTOR PLACEMENT AND OFFSET INFORMATION

Ceiling Mount



Screen _____ (H) x _____ (W)

B) THROW DISTANCE FOR 4 x 3 or 16 x 9 SCREENS:

Minimum: = (screen width x 2.0) = _____ inches

Maximum: = (screen width x 2.3) = _____ inches

C) VERTICAL OFFSET:

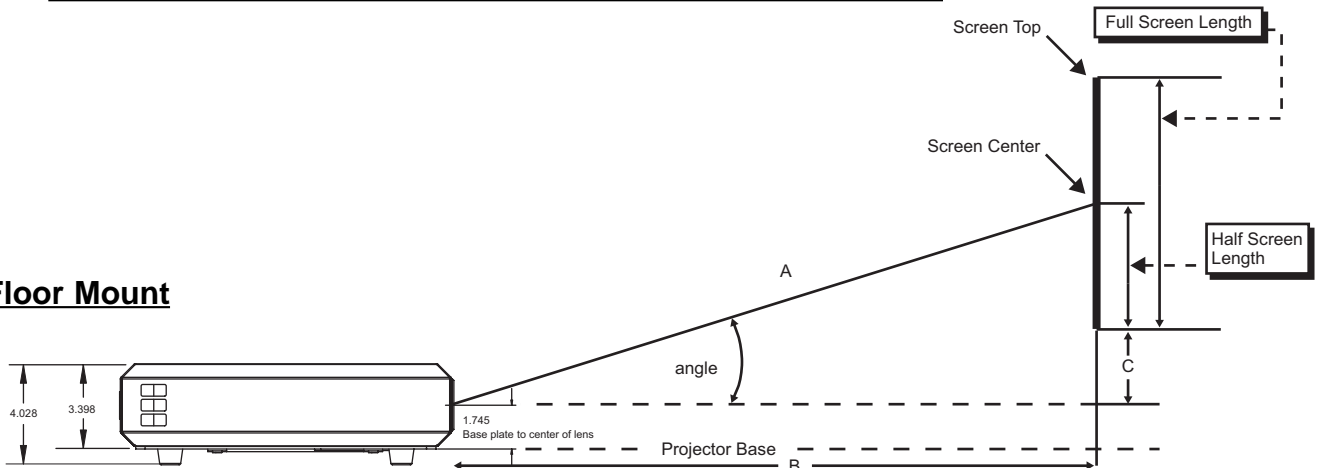
Distance between lens center and top edge of viewing area (bottom edge for floor mount):

For use on 4 x 3 ratio screens: (screen width x .173) = _____ inches

For use on 16 x 9 ratio screens: (screen width x .265) = _____ inches

NOTE: These figures are the same for both ceiling and floor configurations. The offset figures are with the "16:9 Position" setting in the CENTER position (see page 18).

Floor Mount

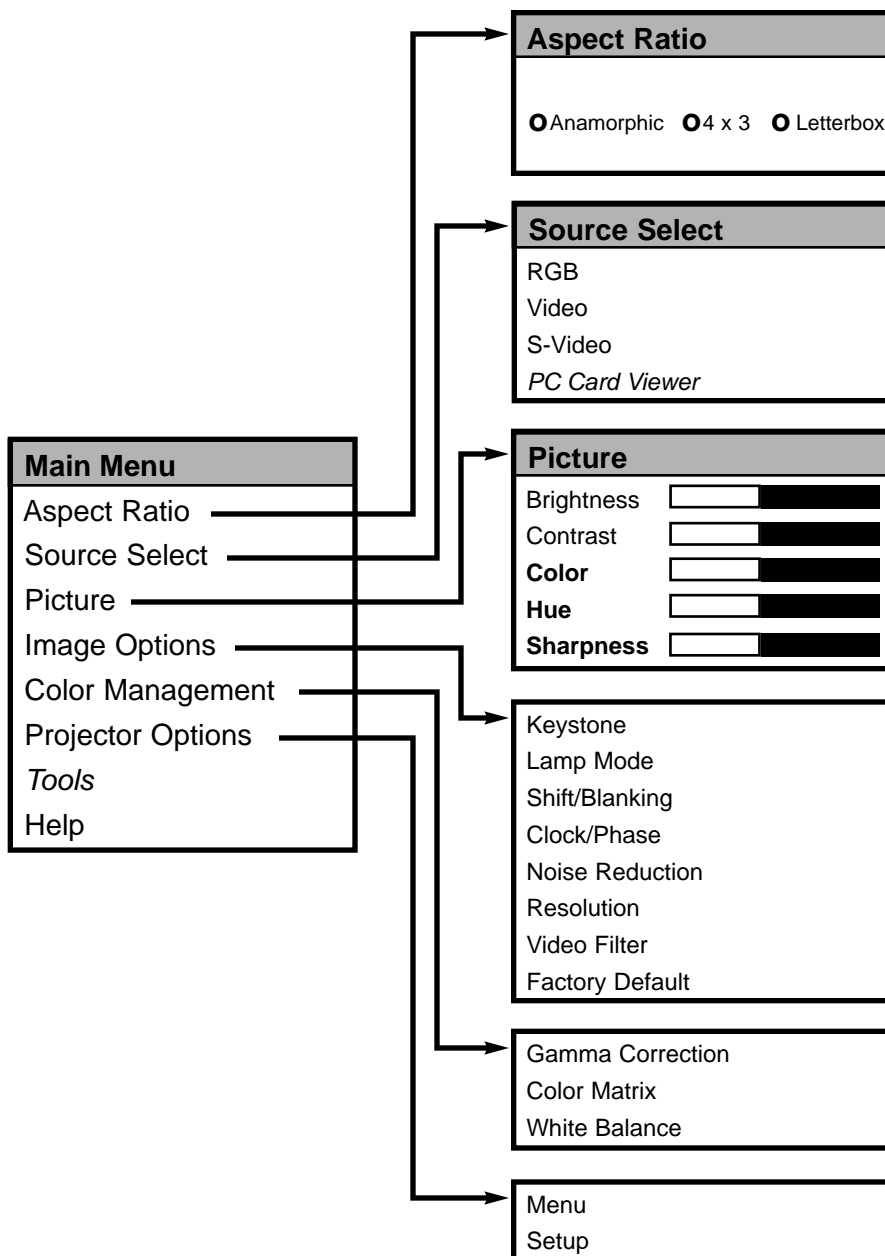


Operation: DR-300 Projector

MENU TREE

The menu system of your DR-300 is comprised of three sections- the MAIN menu, the SUB MENUS and the adjustable ITEMS. Please note that not all items will work for all types of inputs; items in *italics* are for service personnel only. Items in **BOLD** will not function when the input signal is RGB.

The menu tree below is the 'Advanced Menu', which is enabled simply by highlighting "To Advanced Menu" on the main menu and pressing Enter.

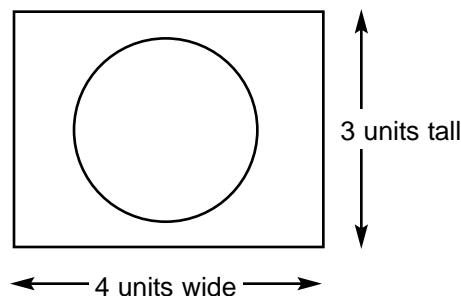


ASPECT RATIO

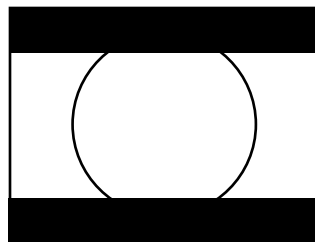
ASPECT RATIO allows you to 'shape the image' properly, and is dependent on the type of source you are using. For example, most DVDs are recorded in Anamorphic, and Laser disc movies were almost all letterbox. 4:3 is the standard aspect ratio that is used today; all standard televisions are in this shape as are standard broadcast transmissions. HDTV is always anamorphic.

Let's take a look at what aspect ratios are all about...

An 'aspect ratio' is simply the ratio of the height vs. the width of the screen. For example, the current aspect ratio standard is 4:3 (or 1.33:1), where the image is 4 units wide and 3 units tall.



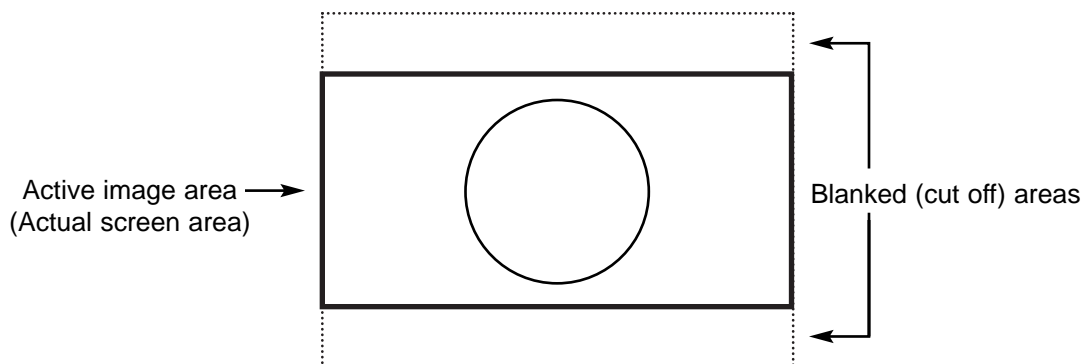
All of our 'regular' televisions are this aspect ratio. You have probably noticed that occasionally you'll watch a movie that does not fill the screen vertically. This is because the movie was filmed in WIDESCREEN (letterbox), and the result is 'black bars' above and below the image:



Obviously, watching a movie like this does not lend itself to a truly cinematic Experience! This is why Runco invented the first-ever multiple aspect-ratio projection system back in 1991, so true movie-lovers can watch actual widescreen (letterbox) movies on a WIDESCREEN!

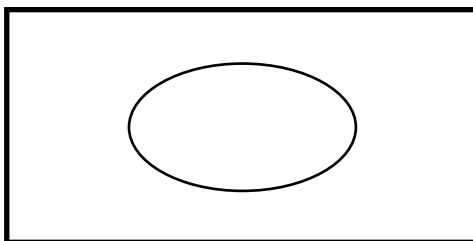
The term "WIDESCREEN" can relate to a number of different aspect ratios; many movies are either 1.85:1 or 2.35:1, and HDTV is always 1.78:1 (16:9).

The way we create a widescreen (or LETTERBOX) aspect ratio is to take a full 4:3 image, then 'blank' (or cut off) the top and bottom so the displayed image is in a widescreen format. For movies recorded in 'letterbox', there would be no information above and below the screen anyways, so we're not losing any of the picture. However, if you were to watch standard television broadcast this way, you would lose some information (see next drawing).



As you can see, our screen in this example is a 1.85:1 ratio. The dashed lines show the area that we 'blanked'. If you recall, watching a letterbox movie on a 4:3 screen gave us black bars; therefore with letterbox movies, we're not losing any information.

The 'other' type of widescreen is called 'ANAMORPHIC'. The image is still a widescreen format, but instead of 'blanking' the top and bottom, we simply reduce or 'squeeze' the overall height of the image:



As a result, all objects will be 'short and fat' (like the circle above), right? Well, not if you're using software that is anamorphic. Most (but not all) DVD movies have an anamorphic option. Ultimately, anamorphic software will always provide better resolution.

SOURCE SELECT

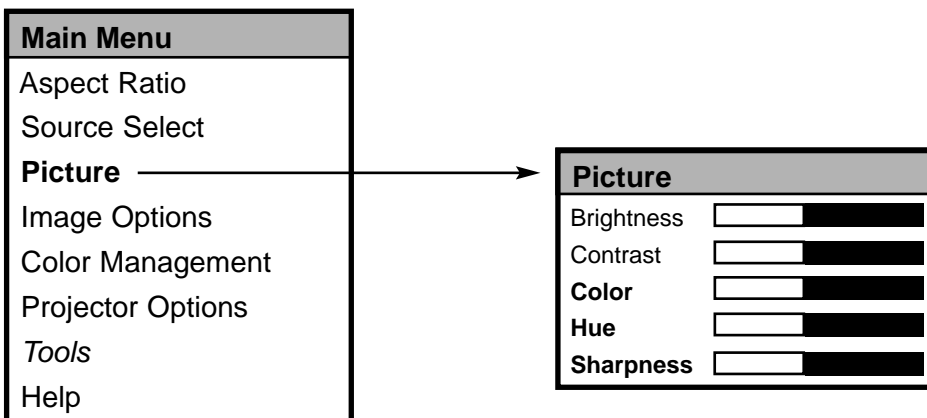
Source Select
RGB
Video
S-Video
<i>PC Card Viewer</i>

There are two options for selecting a source. You may either press one of the source buttons on the remote, or by pressing MENU and highlighting SOURCE SELECT. When the SOURCE SELECT menu appears, highlight the desired source and press either the right arrow or the ENTER button.

The RGB input will also accept component. For example, you could input a progressive DVD or HDTV component signal into this port (using a VGA-RGB cable). If using component, only the red, green and blue cables need to be used on the VGA-RGB cable; the sync cables need not be connected. However, if you will be switching between RGB and component sources, ensure all five cables (R,G,B,H,V) are connected.

The projector will automatically detect whether a signal is component or RGB. Therefore, no command(s) need to be sent to the projector to tell it to change from one to the other.

PICTURE



The picture menu is where image quality adjustments can be made. These include contrast, brightness, Color, Hue (Tint) and Sharpness.

Note: Color, Hue and Sharpness do not function when an RGB signal is input. Sharpness will not function when a Component signal is input.

PICTURE ADJUSTMENTS

CONTRAST: Increases the white level of the image. This should normally be set approximately mid-range. If this is increased too high, you may notice 'blooming', where the brightest areas of the image may bloom together causing a loss of definition in bright scenes. If contrast is set too low, the picture will be less bright and dull.

BRIGHTNESS: Increases the black level of the image. If this is set too high, the image will appear 'washed-out', where there are no real 'blacks' in the image. If set too low, there will be a significant loss of definition in the dark areas of the image.

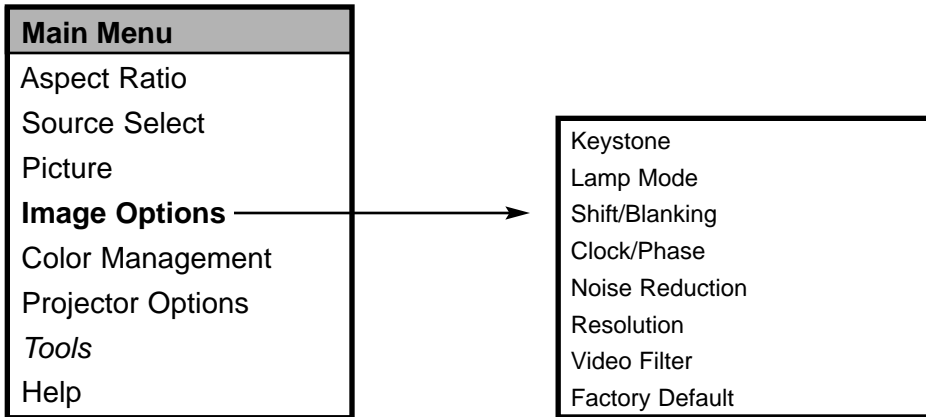
COLOR: Used only if Component, S-Video or Composite video is input to the projector. This increases the overall amount of color in the image. If too much color is used, colors will be over saturated and the image will not look realistic. Too little color will make the image look dull and lifeless.

HUE (Tint): Used only if Component, S-Video or Composite video is input to the projector. This changes the overall 'feel' of the image to either redder or greener.

SHARPNESS: Used only if S-video or Composite video is input to the projector (will not function in RGB or Component). This increases or decreases the amount of high-frequency information in the image. If increased too high, the picture will appear noisy; if adjusted too low, the image will be soft.

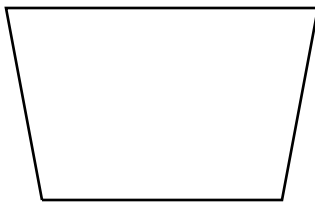
To make any PICTURE adjustment, press MENU, then the down arrow to highlight PICTURE, and press ENTER. Highlight the desired adjustment with the up/down buttons, then make the adjustment with the left or right arrow buttons. After making the adjustment, ensure you press ENTER to save your adjustment!

IMAGE OPTIONS

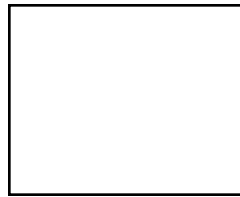


The image options menu is where you can adjust various aspects of the image, including KEYSTONE, SHIFT, etc. These functions are described below.

KEYSTONE: Corrects the trapezoidal distortion that results from projecting at an angle:



An image with **Keystone** error



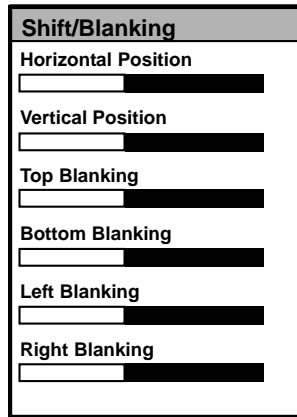
A correctly adjusted image

This may occur in installations where the projector needed to be angled as a result of a larger vertical offset. This keystone feature will correct for trapezoidal distortion for as much as a 15° projector angle.

Note: In the **PROJECTOR OPTIONS** menu, there is a line item called '**KEYSTONE SAVE**'. If this is not '**checked**', then the keystone adjustment you make will not be saved upon power-down. Please ensure it is '**checked**' in the **PROJECTOR OPTIONS** menu (See pages 17, 19).

LAMP MODE allows you to reduce the amount of current the lamp draws by 20%. This will extend the life of the bulb, and is recommended for use on small screen sizes. **NORMAL** is the default setting; **ECO** is the economy setting. If the **ECO** mode is used, the lamp will start up in the normal mode for the first minute after the projector is turned on, then go to the **ECO** mode.

SHIFT / BLANKING



The **SHIFT** and **BLANKING** functions allow you to properly size and 'blank' (or 'Crop') the image to fit the screen properly.

SHIFT allows you to make minor adjustments to the position of the image horizontally or vertically. For coarse adjustments in which the image can be located at the top, center or bottom of the device, please refer to "Projector Options", pages 17 and 18.

BLANKING allows you to 'cut off' part of the image to fit the screen properly. For example, if you have a 1.85 screen you may find that the image is just a bit too tall. In this case, blanking the top and bottom of the image slightly will eliminate any unwanted overscan.

To make *SHIFT*, *BLANKING* or *KEystone* adjustments, press *MENU*, then the down arrow to highlight *IMAGE OPTIONS*, and press the right arrow. Highlight the desired adjustment with the up/down buttons, then make the adjustment with the left or right arrow buttons. After making the adjustment, ensure you press *ENTER* to save your adjustment!

CLOCK/PHASE is only active when a computer signal is input. This manually adjusts the clock frequency and can be used to manually remove any vertical banding in the image. This should normally not need to be adjusted, as the projector automatically detects the incoming signal and calibrates itself accordingly. *PHASE* is a fine adjustment that can be used to sharpen text and other fine details in a computer image.

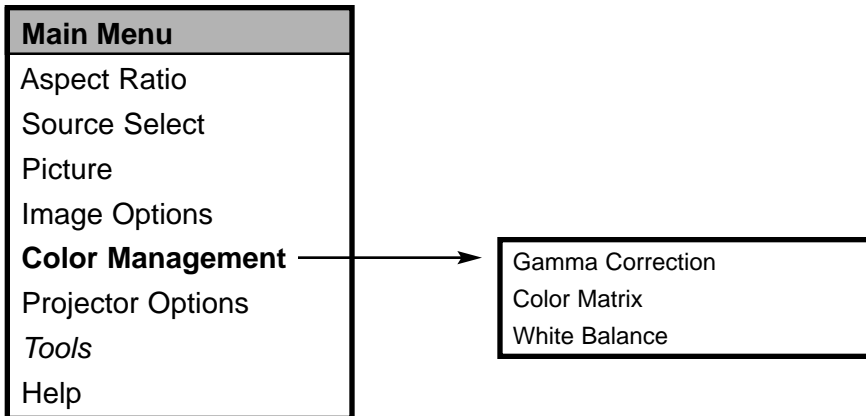
NOISE REDUCTION filters out any high-frequency noise in the image. When set to OFF, the bandwidth is the highest; when set to HIGH, the bandwidth is limited but will filter out unwanted noise. Normally this should be left OFF unless the source is questionable.

RESOLUTION can be set for AUTO or NATIVE. If inputting a lower resolution signal, 800 x 600 for example, the AUTO feature will upconvert it to the full resolution of the device, 1024 x 768. If left in NATIVE, the image will only display in an 800 x 600 area of the device. The image will be much smaller as a result.

VIDEO FILTER can be used to remove noise from the video image. This is similar to NOISE REDUCTION but is used for video as opposed to computer images.

FACTORY DEFAULT reverts all settings back to factory preset levels. This can be done to either the current signal, or to all signals.

COLOR MANAGEMENT



The COLOR MANAGEMENT menu allows you to make changes that affect the quality and overall color balance of the image. Three types of adjustments area available and are described below.

GAMMA CORRECTION changes the overall tracking of the grey scale. It not only affects the color of the grey scale, but the apparent black levels as well.

Three levels are available:

Normal: Raises the black level and changes the flesh tones slightly towards the green; better for use in a lighted room.

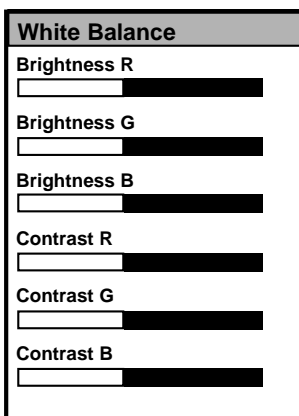
Natural 1: This is the default setting; it produces proper flesh tones and black levels for use in a light-controlled environment.

Natural 2: This is the same as Natural 1, but with elevated blacks for environments where there is some ambient light.

COLOR MATRIX is only used when component video is input. It allows you to manually select the correct color matrix for the signal that is being input (HDTV, SDTV; B-Y;R-Y; Cb/Cr or Pb/Pr).

WHITE BALANCE

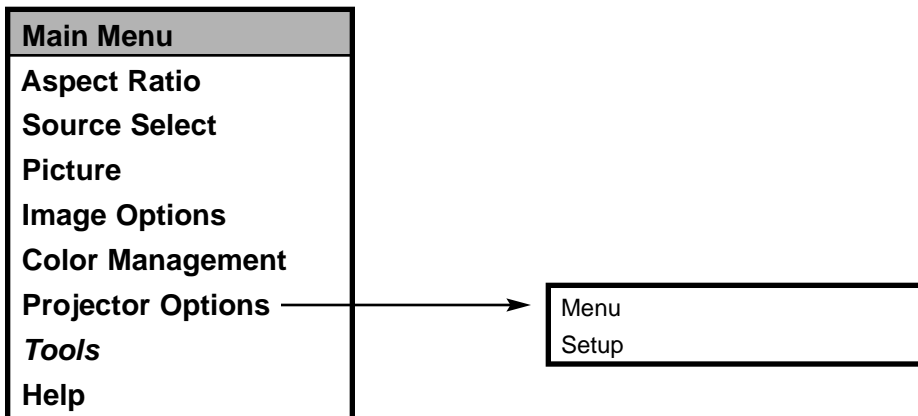
The white balance controls adjust the overall grey scale.



The menu to the left shows the white balance adjustments. BRIGHTNESS affects the darker areas of the image; for example, BRIGHTNESS R will increase or decrease the amount of red in the dark areas of the image. CONTRAST affects the brightest areas of the image; for example, CONTRAST B will increase or decrease the amount of blue in the bright areas of the image.

There is some interactivity between the brightness and contrast adjustments, so after an adjustment is made, the overall grey scale should be evaluated and touched-up as necessary.

PROJECTOR OPTIONS



The projector options menu allows you to make adjustments to a number of projector functions. The MENU options allow you to make adjustments to the on-screen menu such as display time, menu items, etc.

MENU OPTIONS

There are two pages of the menu options menu. On **PAGE 1**, the following adjustments can be made:

MENU MODE sets the menu to either ADVANCED or BASIC/CUSTOM full time. In other words, if you set this for Advanced, every time you access the menu it will always be in the advanced mode.

BASIC/CUSTOM MENU EDIT allows you to add or remove menu items from the Basic menu.

LANGUAGE allows you to change the language of the on-screen menus. Choose from English, German, French, Italian, Spanish, Swedish and Japanese.

MENU DISPLAY TIME allows you to change the amount of time it takes for the on-screen menu to 'time out' or disappear from the screen. Choose from either MANUAL (in which you must manually remove the menus with the cancel button), Auto 5 secs, Auto 15 secs and Auto 45 secs. Runco recommends that this be left in Auto 5 secs.

On **PAGE 2** of the Menu Options Menu, the following may be adjusted:

SOURCE DISPLAY ON/OFF: When the source is changed, this will enable or disable the on-screen display to report which source it was changed to.

NO INPUT MESSAGE: When the projector does not see a signal on the currently selected source, this will enable or disable a "No Input" message from appearing on-screen.

VOLUME BAR and KEYSTONE BAR are not used with this version.

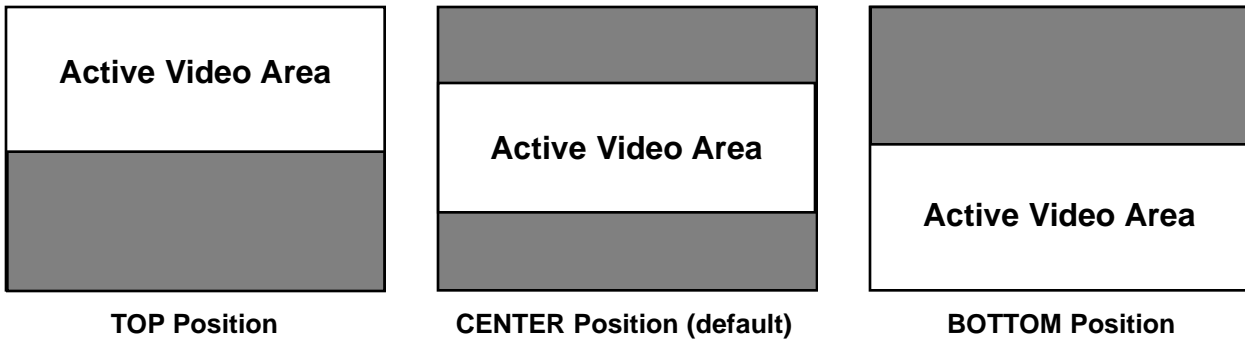
SETUP OPTIONS

The SETUP portion of the PROJECTOR OPTIONS menu controls various global aspects of the projector's functions. This menu contains five pages, and are described below:

On **PAGE 1**, the following may be adjusted:

ORIENTATION changes the image orientation. The image can be set for DESKTOP FRONT (floor/front), CEILING REAR, DESKTOP REAR and CEILING FRONT.

16:9 POSITION is a coarse shift adjustment that allows a 16:9 image to be displayed on either the CENTER (default), TOP or BOTTOM of the device. This is extremely helpful in installations where the Vertical Offset (see page 7) cannot be precisely attained. Please refer to the drawings below:



The **16:9 POSITION** feature can be used in lieu of angling the projector and using keystone, and can **ONLY** be used on 16:9 screens and **CANNOT** be used if an anamorphic lens is installed on the projector.

When this is set for either TOP or BOTTOM, the Anamorphic and 4:3 aspect ratios will automatically go to the selected position. The LETTERBOX aspect ratio must be manually moved into the desired position. To do this, please perform the following:

1. Set the 16:9 POSITION to the desired position (top or bottom).
2. Ensure that "DEFINE SCREEN TYPE" is set to 16:9 screen (see page 20)
3. Select the ANAMORPHIC aspect ratio and ensure it is properly centered on the screen. Make any SHIFT adjustments as necessary.
4. Select the LETTERBOX aspect ratio (it will be in the center of the device and but not centered on the screen). Go to the SHIFT control and adjust the vertical position of the letterbox aspect ratio so it is properly centered on the screen.

BACKGROUND: When no signal is input, the projector can display either a BLUE background, a BLACK background or a white background with the Runco logo.

MOUSE: Not used on this model

PAGE 2 of the SETUP OPTIONS menu contains adjustments for service personnel only.

PAGE 3 of the SETUP OPTIONS menu is where signals can be set for auto-select, or manually set for one of a number of types of signals exclusively. Typically, all of these adjustments should be left in AUTO unless using a questionable source such as a VCR.

SIGNAL SELECT:

RGB: Can be set for AUTO (recommended), RGB or Component. If set to RGB, a component signal will not be displayed properly; If set to COMPONENT, an RGB signal will not be displayed properly.

VIDEO: Can be set for AUTO (recommended), NTSC 3.58, NTSC 4.43, PAL, PAL-M, PAL-N, PAL60 and SECAM. If the source is of questionable quality (older VCRs, etc.), setting the Video for the appropriate standard may prevent the projector from trying to 'evaluate' the signal which could cause the image to 'blink' on and off.

S-VIDEO: Can be set for AUTO (recommended), NTSC 3.58, NTSC 4.43, PAL, PAL-M, PAL-N, PAL60 and SECAM. If the source is of questionable quality (older VCRs, etc.), setting the Video for the appropriate standard may prevent the projector from trying to 'evaluate' the signal which could cause the image to 'blink' on and off.

PAGE 4

Page 4 of the setup menu contains global adjustment options. These are on/off items only. The menu items include:

AUTO ADJUST: when enabled (checked), will allow the projector to automatically adjust Pixel clock, phase and position. If this is disabled, pixel clock, phase and position will always have to be adjusted manually. Runco recommends leaving this enabled.

AUTO START: When checked, the projector will turn on immediately when AC is applied to the unit. NOTE: Runco HIGHLY recommends that this feature be left disabled (unchecked). To ensure long life and reliability of your DR-300 projector, ALWAYS turn the unit on and off with the remote control.

POWER MANAGEMENT: When this is checked, the projector will shut itself off if no RGB signal is detected for a period of five minutes.

POWER OFF CONFIRMATION: When this is checked, the projector will ask you to confirm that you want to turn the unit off.

KEYSTONE SAVE: When checked, the projector will save the keystone settings that were made after the unit is shut down. This affects all sources. **NOTE: This must always be checked when mounting the projector in a permanent installation.**

WHITE SEGMENT: When this is checked, the contrast level will be boosted. This is sometimes helpful if using the projector in an area where there is high ambient light, but typically should be left OFF (unchecked).

CLEAR LAMP HOUR METER: Resets the lamp hour meter back to '0'. This should ONLY be done after the lamp is replaced. The projector will provide an on-screen message once the lamp life has reached 1000 hours; at 1100 hours the projector will go into standby. Ensure that the lamp is replaced before 1100 hours and the lamp hour meter is reset before 1100 hours.

PAGE 5

The last page of the setup menu is where the screen type is defined (4:3 screen, 16:9 screen, 16:9 screen with an anamorphic lens) as well as default source selection.

DEFINE SCREEN TYPE: This is where you tell the projector what aspect ratio screen you are using, and whether or not you are using an anamorphic lens. This **MUST** be set first before using the projector, as the aspect ratios the projector creates will be dependent on this setting.

There are three options for setting the screen type:

16:9 screen: If you have a 16:9 aspect screen and are **NOT** using an anamorphic lens, set 'Define screen type' to this. This will allow the projector to provide anamorphic and letterbox aspect ratios that will fill the screen, and a 4:3 aspect ratio that will occupy the center of the 16:9 screen.

4:3 screen: If you have a 4:3 screen, set 'Define screen type' to this. This will allow the projector to create a full 4:3 image that will fill the screen, and an anamorphic and letterbox aspect ratios will be centered vertically on the 4:3 screen.

16:9 screen with an anamorphic lens: This setting is only applicable if you are using the projector with an outboard anamorphic lens. The aspect ratios created by the projector will appear the same as on the "16:9 screen" setting, but will be vertically stretched on the DMD to accommodate the anamorphic lens.

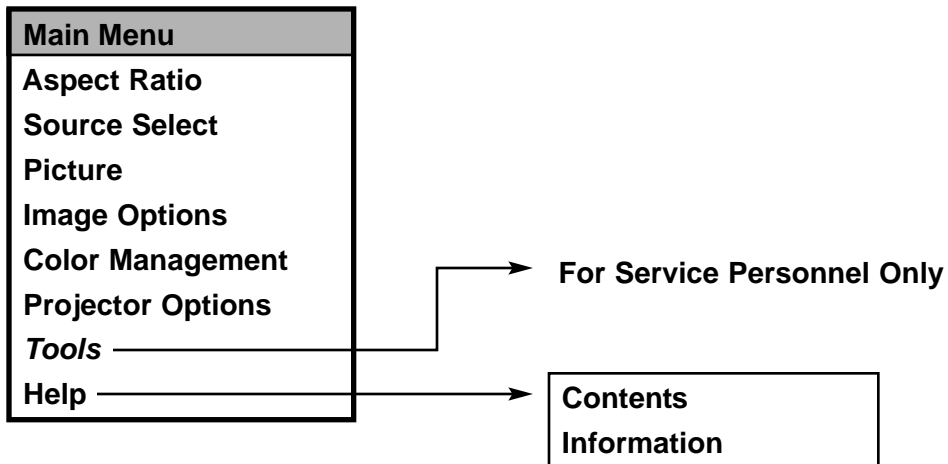
DEFAULT SOURCE SELECT: This will set the projector to default to a source of your choice once it is turned on. There are three choices:

LAST: When the projector is turned on, it will go to the last input it was on before it was turned off.

AUTO: Enables the projector to search for an active source on its own in the following order: RGB/Component, S-video, Composite Video.

SELECT: You may select an input of your own choice for the projector to default to upon turn-on.

CONTROL PANEL KEY LOCK: Not used on this model.



TOOLS: For service personnel only. This is for aiding the service technician with software downloads and diagnostics. It does not serve any purpose for normal operation.

HELP: The DR-300 projector has information about every function built-in. The HELP menu includes a CONTENTS page, in which information about any function in the projector can be accessed. INFORMATION gives information about the current source, including frequency, signal type, resolution, etc. The PROJECTOR INFO page also contains the lamp hour meter.

NOTE: The projector will automatically go into standby when the lamp hour meter has reached 1100. When this happens, please contact your Runco dealer for a replacement lamp. Runco recommends checking the lamp hour meter from time to time, and replacing the lamp at around 1000 hours to avoid shutdown.

Troubleshooting

TROUBLESHOOTING

Your DR-300 projector is a very reliable, low maintenance projector. Occasionally, trouble may develop. However, before calling your Runco dealer for service, please refer to the following basic troubleshooting guide:

<p>Projector does not turn on.</p>	<p>Is the unit plugged in? Is there power to the outlet it is plugged in to?</p> <p>Check to see if the orange STANDBY LED is lit on the projector. If it is, the unit has power. Check the remote batteries. If it is not lit, try another power outlet. If it still does not come on, contact your Runco dealer.</p>
<p>No Picture or blue screen.</p>	<p>Is the source going to the projector on? Are you on the correct source?</p> <p>If there is no image but you can get the on-screen menus from the projector, the source is most likely off or the projector is not looking at the correct source.</p>
<p>The image is not square.</p>	<p>Adjust Keystone, see page 14. If the Keystone was correctly set, but changed upon turn-on, readjust Keystone and enable KEYSTONE SAVE (page 19).</p>
<p>The remote control does not function or is erratic.</p>	<p>Try replacing the batteries. Also, if you are trying to use the remote from too far away, try moving closer to the projector and try the remote again.</p>
<p>The projector tries to turn on but the lamp does not come on and the status LED on the projector is blinking.</p>	<p>If this happens, the projector may have detected a fault. The red Status LED will blink in several different ways, describing different faults:</p> <p>On constantly: The bulb has exceeded 1000 hours.</p> <p>Blinking on and off every second: The lamp cover is not on properly. Contact your Runco dealer.</p> <p>Blinking on and off every 4 seconds: The projector has overheated. Ensure nothing is blocking the projector's ventilation holes.</p> <p>Blinking on and off every 8 seconds: The fan has stopped. Contact your Runco dealer.</p> <p>Blinking on and off every 12 seconds: The lamp did not turn on. If the projector was turned on and off too quickly, this may happen. Allow the projector to settle for 5 minutes, and try again. If the same fault is reported, contact your Runco dealer.</p>

RS-232 Control Codes / Cable Connection _____



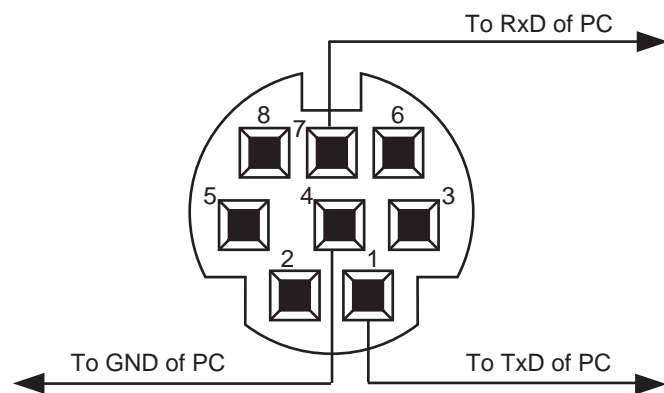
Function	Code Data
POWER ON	02H 00H 00H 00H 00H 02H
POWER OFF	02H 01H 00H 00H 00H 03H
INPUT SELECT RGB/COMPONENT	02H 03H 00H 00H 02H 01H 01H 09H
INPUT SELECT VIDEO	02H 03H 00H 00H 02H 01H 06H 0EH
INPUT SELECT S-VIDEO	02H 03H 00H 00H 02H 01H 0BH 13H
PICTURE MUTE ON	02H 10H 00H 00H 00H 12H
PICTURE MUTE OFF	02H 11H 00H 00H 00H 13H
SOUND MUTE ON	02H 12H 00H 00H 00H 14H
SOUND MUTE OFF	02H 13H 00H 00H 00H 15H
ON SCREEN MUTE ON	02H 14H 00H 00H 00H 16H
ON SCREEN MUTE OFF	02H 15H 00H 00H 00H 17H

CABLE CONNECTION

Communication Protocol

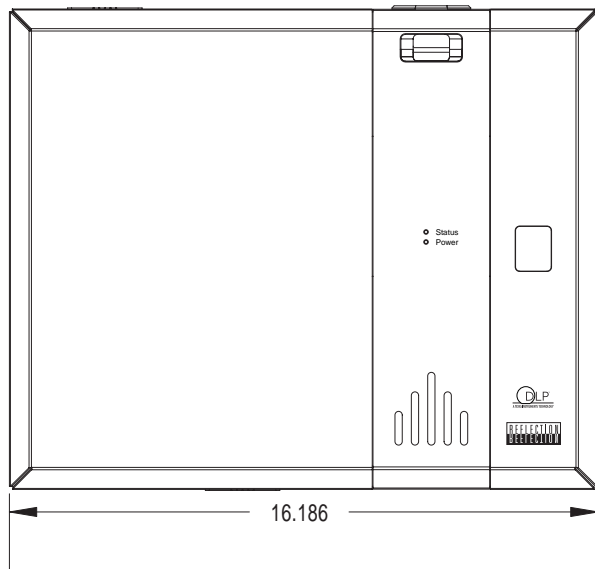
- Baud Rate:** 38400 bps
- Data Length:** 8 bits
- Parity:** No Parity
- Stop bit:** One bit
- X on/off:** None
- Communications Procedure:** Full duplex

RS-232 Control Connector (DIN-8P)

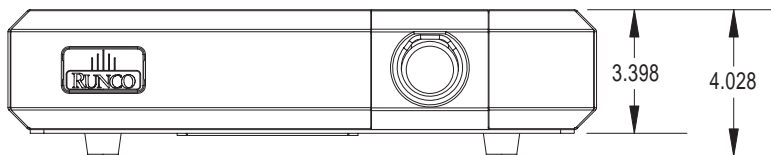


DR-300 Projector Dimensions _____

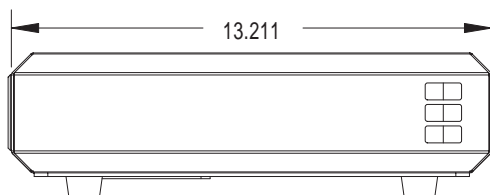
Top View



Front View



Side View



Specifications

DR-300 Projector:

Projector Type:	Digital Light Processing™ (DLP)™
Native Resolution:	Native 1024 x 768, Widescreen 1024 X 576
Video Standards:	NTSC, (PAL/NTSC International version)
Lamp:	135 W NSH lamp
Lamp Life:	1000 hours
Light Output:	1000 ANSI lumens
Picture Size:	36 to 200 inches diagonal
Throw Distance:	Minimum= 2.0 x screen width Maximum= 2.3 x screen width
Vertical offset:	16:9 screens: .265 x screen width / 4:3 screens: .173 x screen width <i>The vertical offset numbers are within ± 5% tolerance due to minor variance between units. The offset is calculated from the center of the lens.</i>
Inputs:	Composite, S-Video, RGB/Component
Aspect Ratio:	3 Memories: <u>4 x 3 Screens:</u> 4:3 aspect fills the screen, anamorphic and letterbox aspects occupy center of 16:9 portion of screen (black bars above/below image) <u>16 x 9 Screens:</u> 16:9 and anamorphic aspects fills the screen, 4:3 aspect occupies center of 16:9 screen (black bars on sides of image) <u>16 x 9 Screens with Anamorphic Lens (optional):</u> same ratios as 16:9 screens; but maximizes resolution as all pixels are active on screen
Contrast Ratio:	800:1 (ANSI method)
Bandwidth:	80 MHz
Power Requirements:	115VAC 60 Hz, (90-240V auto-switching power supply International version)
Current:	2.2A (115VAC, 60 Hz), 1.1A (220-240V, 50-60 Hz International version)
Dimensions:	Width: 16.186 in. / 411 mm Depth: 13.211 in. / 336 mm Height: (w/feet) 4.028 in. / 103 mm
Weight:	16 lbs. / 7.26 kg
Safety Regulations:	Complies with FCC Class 'B', CE, C-Tick
Operating Environment:	32-104° F (0-40° C)
Humidity:	40-80%, non-condensing
Warranty:	Service Labor and Parts (except lamp): Runco warrants the product for two (2) year from the date of delivery to the end user. Lamp: 6 months or 1000 hours (which ever comes first).

RUMA-006900 rev 11-01



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Runco International • 2463 Tripaldi Way • Hayward, CA 94545 • ph (510) 293-9154 • fax (510) 293-0201 • www.runco.com